PCT ENT COOPERATION TREA

From the INTERNATIONAL BUREAU

PCT

NOTIFICATION OF ELECTION

(PCT Rule 61.2)

To:

United States Patent and Trademark Office
(Box PCT)
Crystal Plaza 2
Washington, DC 20231
ETATS-UNIS D'AMERIQUE

in its capacity as elected Office

Date of mailing (day/month/year) 28 May 1997 (28.05.97)	
International application No. PCT/IT96/00202	**Applicant's or agent's file reference** RM/X88636/PC
International filing date (day/month/year) 04 November 1996 (04.11.96)	**Priority date** (day/month/year) 06 November 1995 (06.11.95)
Applicant NOBEL, Udo et al	

1. The designated Office is hereby notified of its election made:

[X] in the demand filed with the International Preliminary Examining Authority on:

06 May 1997 (06.05.97)

[ ] in a notice effecting later election filed with the International Bureau on:

2. The election [X] was

[ ] was not

made before the expiration of 19 months from the priority date or, where Rule 32 applies, within the time limit under Rule 32.2(b).

The International Bureau of WIPO **34, chemin des Colombettes** **1211 Geneva 20, Switzerland**	Authorized officer F. Gateau
Facsimile No.: (41-22) 740.14.35	Telephone No.: (41-22) 730.91.11

[P]ENT COOPERATION TREAT[Y]

From the
INTERNATIONAL PRELIMINARY EXAMINING AUTHORITY

PCT

To:
BAZZICHELLI, Alfredo
Società Italiana Brevetti S.p.A.
39 Piazza di Pietra
00186 Roma
ITALIE

RICEVUTO
22 OTT. 1997
SOCIETÀ ITALIANA BREVETTI S.p.A.
Piazza di Pietra, 39
00186 ROMA

NOTIFICATION OF TRANSMITTAL OF INTERNATIONAL PRELIMINARY EXAMINATION REPORT

(PCT Rule 71.1)

Applicant's or agent's file reference: RM/X88636/PC	Date of mailing (day/month/year): 13. 10. 97
	IMPORTANT NOTIFICATION

International application No.	International filing date (day/month/year)	Priority date (day/month/year)
PCT/ IT 96/ 00202	04/11/1996	06/11/1995

Applicant: SOCIETA ITALIANA VETRO -SIV- S.P.A. et al.

1. The applicant is hereby notified that this International Preliminary Examining Authority transmits herewith the international preliminary examination report and its annexes, if any, established on the international application.

2. A copy of the report and its annexes, if any, is being transmitted to the International Bureau for communication to all the elected Offices.

3. Where required by any of the elected Offices, the International Bureau will prepare an English translation of the report (but not of any annexes) and will transmit such translation to those Offices.

4. **REMINDER**

The applicant must enter the national phase before each elected Office by performing certain acts (filing translations and paying national fees) within 30 months from the priority date (or later in some Offices)(Article 39(1))(see also the reminder sent by the International Bureau with Form PCT/IB/301).

Where a translation of the international application must be furnished to an elected Office, that translation must contain a translation of any annexes to the international preliminary examination report. It is the applicant's responsibility to prepare and furnish such translation directly to each elected Office concerned.

For further details on the applicable time limits and requirements of the elected Offices, see Volume II of the PCT Applicant's Guide.

Name and mailing address of the IPEA/	Authorized officer
European Patent Office D-80298 Munich Tel. (+49-89) 2399-0, Tx: 523656 epmu d Fax: (+49-89) 2399-4465	Maria Erandt Telephone No. 2399-8112

PATENT COOPERATION TREATY

PCT

INTERNATIONAL PRELIMINARY EXAMINATION REPORT

(PCT Article 36 and Rule 70)

Applicant's or agent's file reference	FOR FURTHER ACTION	See Notification of Transmittal of International Preliminary Examination Report (Form PCT/IPEA
RM/X88636/PC		
International application No.	International filing date (day/month/year)	Priority date (day/month/year)
PCT/ IT 96/ 00202	04/11/1996	06/11/1995
International Patent Classification (IPC) or national classification and IPC		
B60J10/02		
Applicant		
SOCIETA ITALIANA VETRO -SIV- S.P.A. et al.		

1. This international preliminary examination report has been prepared by this International Preliminary Examining Authority and is transmitted to the applicant according to Article 36.

2. This REPORT consists of a total of 7 sheets, including this cover sheet.

☒ This report is also accompanied by ANNEXES, i.e., sheets of the description, claims and/or drawings which have been amended and are the basis for this report and/or sheets containing rectifications made before this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions under the PCT).

These annexes consists of a total of 10 sheets.

3. This report contains indications and corresponding pages relating to the following items:

- I [X] Basis of the report
- II [ ] Priority
- III [ ] Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
- IV [ ] Lack of unity of invention
- V [X] Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
- VI [ ] Certain documents cited
- VII [ ] Certain defects in the international application
- VIII [ ] Certain observations on the international application

Date of submission of the demand	Date of completion of this report
06/05/1997	13. 10. 97
Name and mailing address of the IPEA/	Authorized officer
European Patent Office D-80298 Munich Tel. (+49-89) 2399-0, Tx: 523656 epmu d Fax: (+49-89) 2399-4465	J. Durand-Smet Telephone No.

Form PCT/IPEA/409 (cover sheet) (January 1994) (21/05/1997)

Intern. application No.

INTERNATIONAL PRELIMINARY EXAMINATION REPORT

PCT/IT96/00202

I. Basis of the report

1. This report has been drawn up on the basis of (Replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to the report since they do not contain amendments.):

[ ] the international application as originally filed.

[x] the description, pages 1-3,6,10-15_____, as originally filed,
pages _____, filed with the demand,
pages 4,5,7-9_____, filed with the letter of 19.09.97,
pages _____, filed with the letter of _____,

[x] the claims, Nos. _____, as originally filed,
Nos. _____, as amended under Article 19,
Nos. _____, filed with the demand,
Nos. 1-26_____, filed with the letter of 19.09.97,
Nos. _____, filed with the letter of _____,

[x] the drawings, sheets/fig 1/4-4/4_____, as originally filed,
sheets/fig _____, filed with the demand,
sheets/fig _____, filed with the letter of _____,
sheets/fig _____, filed with the letter of _____.

2. The amendments have resulted in the cancellation of:
[ ] the description, pages _____.
[ ] the claims, Nos. _____.
[ ] the drawings, sheets/fig _____.

3. [ ] This report has been established as if (some of) the amendments had not been made, since they have been considered to go beyond the disclosure as filed (Rule 70.2(c)):

4. Additional observations, if necessary:

V. Reasoned statement under Article 35(2) with regard to novelty, inventive step and industrial applicability; citations and explanations supporting such statement

1. STATEMENT

Novelty (N)	Claims 1-26	YES
	Claims	NO
Inventive Step (IS)	Claims	YES
	Claims 1-26	NO
Industrial Applicability (IA)	Claims 1-26	YES
	Claims	NO

2. CITATIONS AND EXPLANATIONS

1. It is already known from EP-A-0 531 201 to provide a window for a vehicle, comprising a glazing (1, 12) including an elastomeric glazing profile (4, 14) disposed around at least part of its periphery on a margin of a face of the glazing, and a mounting flange (7, 8; 16, 17) having an inner edge (7) defining an aperture in a vehicle body. In this window:

- the profile includes a raised portion, shaped and positioned to centre the glazing within the aperture during insertion in the aperture by bearing against the inner edge of the mounting flange (7, 8), and the glazing (1, 12) is bonded to the mounting flange (7, 8) by an adhesive material (10, 19). Although EP-A-0 531 201 does not explicitly specifies that the raised portion is shaped and positioned to center the glazing, the "co-operation" between the raised portion and the mounting flange does extend to centring the glazing within an aperture in a vehicle body or, in other words, the profile strand (4) disclosed in EP-A-0 531 201 is quite capable

of centring the glazing on insertion because of its elasticity, see EP-A-0 531 201, column 4, lines 4 to 11: *"Grâce à ses propriétés caoutchoutiques, le cadre profilé 4 traverse la baie de fenêtre dans la carrosserie, le long du bord 7 de la tôle de fixation 8, de sorte que la rainure d'accrochage 6 forme une liaison à épousement de forme et transfert de force avec le bord 7 de la tôle de fixation 8. Le vitrage 1 est ainsi fixé en sa position. Le cordon de colle 10 peut alors durcir."*

- the profile includes a raised portion in the form of a lip (4, 14, 18) extending axay from the glazing which, after insertion of the glazing in the aperture, extends beyond the edge of the mounting flange of the vehicle body and over the face of the mounting flange which faces away from the glazing (1, 12).

- the profile further includes a spacer portion (referred to under (21) in figure 2 of EP-A-0 531 201; see also column 4, lines 33 and 34: *"Cette nervure 21 sert d'arrêt pour la matière adhésive du cordon de colle 19"*).

- the raised portion of the profile is adapted to retain the glazing in a centred position while the adhesive (10, 19) sets.

2. Vis-à-vis this prior art window, the subject-matters of claims 1 to 4 differs merely by the fact that the glazing is inserted in the aperture from outside the vehicle body. Instead of this, this prior art glazing is inserted in the aperture from inside the vehicle body, so that the adhesive material is protected by the mounting flange from the UV rays coming from outside, see EP-A-0 531 201, column 1, lines 43 to 47: *"Tout d'abord, l'application sur le vitrage d'une couche empêchant le*

passage des rayons ultraviolets devient superflue, car cette fonction est, dans la fenêtre selon l'invention, reprise par la tôle de fixation elle-même." Should the need of protecting the adhesive material disappear, then it would be readily available to apply the centering function of the raised portion taught by EP-A-0 531 201 to a classical type of a window referred to at the beginning of EP-A-0 531 201, column 1, lines 8 to 28, in which the glazing is being inserted in the aperture from outside the vehicle body and thus to arrive at the subject-matters of claims 1 to 4.

3. Therefore, the subject-matter of each of the claims 1 to 4 does not involve an inventive step, contrary to the requirements of Art.33(1) and (3) PCT.

4. The vehicle glazing disclosed in EP-A-0 531 201 has practically all the features recited in claim 16. The glazing according to claim 16 differs from this prior art glazing merely by its insertion in the aperture from outside the vehicle body. Therefore, for the reasons set out in paragraph 2. above, the subject-matter of claim 16 does not involve an inventive step, contrary to the requirements of Art.33(1) and (3) PCT.

5. The following observations are made to claim 18:

5.1. It is already known from EP-A-0 531 201 to provide a seal element applied along the whole internal perimeter of a sheet of glass (1, 12) destined to be glued onto the bodywork (7, 8; 15, 16) of a vehicle by means of adhesive (10, 19). This prior art seal element comprises a tongue (4, 18) one one edge, said tongue protruding at the root in a direction that is essentially perpendicular to the glass (1, 12) and taking on in its end portion the shape of a curl elastically curling over backwards upon itself towards the edge of the glass (1,

12).

5.2. Vis-à-vis this prior art seal element, the subject-matter of claim 18 differs in that the seal element has at least an elastic seal tongue to lie against said bodywork, which protrudes from the edge of the glass in a direction that is essentially parallel to the glass. Such a tongue is however already employed with the same effect as the second tongue referred to in claim 18 as being on the opposite edge to said seal tongue perpendicular to the glass, see EP-A-0 345 134 (Figures 3 and 4) or US-A-5,384,995. Furthermore, the seal element according to claim 18 appears to be merely a juxtaposition of a first and and second tongue known per se from EP-A-0 345 134 or US-A-5,384,995 and from EP-A-0 531 201 respectively and referred to in claim 18 as being at the opposite edges of a seal element. In such a seal element, they are functioning in their normal way without producing any non-obvious working inter-relationship. In other words, it would have been readily available to the skilled person to provide a tongue as disclosed in EP-A-0 345 134 or US-A-5,384,995 on the seal element according to EP-A-0 531 201 and thus to arrive at the subject-matter of claim 18 without producing any surprising effect.

5.3. Therefore, the subject-matter of claim 18 does not seem to involve an inventive step, contrary to the requirements of Art.33(1) and (3) PCT.

6. The method according to claim 23 is similar from that disclosed in DE-A-0 304 694. It differs from this prior art method merely by the fact that a bead of adhesive material is applied to the glazing or the mounting flange. Should the skilled person, however, seek to have a permanent bonding between the glazing and the mounting flange of EP-A-0 304 694, then it would have been obvi-

ous to use an adhesive material as taught by EP-A-0 345 134 or US-A-5,384,995 with respect to a similar method of glazing a window in a vehicle, and thus to arrive at the subject-matter of claim 23. Therefore, the subject-matter of claim 23 does not seem to involve an inventive step, contrary to the requirements of Art.33(1) and (3) PCT.

7. The subject-matter of each of the dependent claims or those appendant to the independent claims 1, 16, 18 and 23 seems to be partially known per se from the prior art noted above or seems to fall within the scope of normal practice or experimentation for the skilled person. Therefore, they do not comply with Art.33(1) and (3) PCT.

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elastomeric glazing profile disposed around at least part of its periphery on a margin of a face of the glazing, and a mounting flange having an inner edge defining an aperture in a vehicle body, the glazing being inserted in the aperture from outside the vehicle body, characterised in that the profile includes a raised portion shaped and positioned to centre the glazing within the aperture during insertion in the aperture by bearing against the inner edge of the mounting flange, and the glazing is bonded to the mounting flange by an adhesive material.

This window has the advantage that the centring element of the profile is not exposed to the weather or to UV radiation. Indeed, in many embodiments of the invention, the whole profile is protected from these harmful agents. The functional element of the profile is also better protected from accidental damage, allows trimless glazing if desired and may be adapted to perform additional functions as described below.

The term "inner" is intended here to mean "towards the centre of the aperture", and "edge" is to be interpreted as including any narrow face in which the mounting flange terminates as well as a meeting-line of such a face with one of the major faces of the mounting flange.

Preferably, the profile includes a raised portion in the form of a lip extending away from the glazing which, after insertion of the glazing in the aperture, extends beyond the edge of the mounting flange of the vehicle body and over the face of the mounting flange which faces away from the glazing.

The glazing profile of this version of the window may eliminate the need for a separate piece of interior trim, thereby simplifying the assembly of the vehicle and reducing the manufacturing costs of the vehicle, while improving the aesthetics of the passenger compartment.

Preferably the glazing profile further includes a spacer portion on the peripheral side of the raised

portion, the spacer portion abutting against the mounting flange during installation thereby acting as a stop for the glazing and maintaining the glazing in fixed spaced relationship to the mounting flange. Such a spacer portion ensures that the window may be accurately glazed flush with the surrounding bodywork.

Preferably the raised portion of the glazing profile is adapted to retain the glazing in a centred position while the adhesive used to bond the glazing sets. The need for separate clips, clamps or other supports is thereby eliminated.

According to another aspect of the invention, there is provided a method of glazing a window in a vehicle, including:

providing a glazing including an elastomeric glazing profile disposed on a margin of a face of the glazing around at least part of its periphery, and a mounting flange having an inner edge defining an aperture in a vehicle body,

applying a bead of adhesive material to the glazing or the mounting flange,

offering the glazing to the aperture from outside the vehicle body, including

centring the glazing relative to the aperture as it is inserted,

characterised by centring the glazing by means of a raised portion of the glazing profile shaped and positioned to bear against the inner edge of the mounting flange.

According to a further aspect, the invention also provides a method of centring a glazing relative to an aperture in a vehicle body as herein described, regardless of the means employed to attach the glazing to the vehicle body.

manufactured by extrusion or a moulding process, e. g. injection or flow-moulding, as appropriate. In the embodiments of the invention herein described, the glazing is attached to the vehicle body by means of an adhesive material 4.

The mounting flange 5 comprises a parallel portion 6 which is substantially parallel to both the external bodywork 7 and the pane of glazing material 1 where they meet. The parallel portion of the mounting flange 5 ends at an extreme inner edge 8 which defines an aperture in the vehicle body. Between the parallel portion 6 and the external bodywork 7 is a distance portion 9 which spaces the parallel portion from the external bodywork 7. The mounting flange has two faces 18 and 19; face 18 faces the glazing whereas face 19 faces away from it.

The glazing normally also includes an obscuration band 2, comprising an opaque layer e.g. of ceramic ink, which serves both to obscure the glazing profile, adhesive and mounting flange from external view thereby improving the aesthetic appearance of the vehicle, and to protect those elements from the effect of sunlight, especially the ultra-violet component. It is an advantage of the present invention that, if desired, the whole glazing profile may be obscured from view and protected from weathering (including the effect of UV radiation) by the pane of glazing material and especially by the obscuration band.

The glazing profile comprises at its simplest a bed portion 13 and a raised portion, which in this embodiment is in the form of a curled lip 12. Preferably there is also a spacer portion 14 on the peripheral side of the raised portion, i.e. on the side towards the periphery of the glazing. During insertion of the glazing, the spacer portion 14 will come to abut onto face 18 of the parallel

portion 6 of the mounting flange 5, thereby acting as a stop for the glazing and maintaining it in fixed spaced relationship to the mounting flange.

Generally the spacer 14 will be of uniform thickness around the glazing to maintain the glazing 10 at a uniform spacing from the mounting flange 5. However, should the depth of the distance portion 9 of the mounting flange vary around the aperture, the thickness of the spacer portion and raised position can also be raised to compensate. Clearly, if the glazing is to be glazed flush with the external bodywork, the combined thickness of the pane 1 and the spacer portion 14 should be approximately equal to the depth of the distance portion 9.

The adhesive material 4 employed is generally sufficiently viscous to remain substantially in position after application; however, if the need arises (e.g. if an adhesive material of unusually low viscosity is to be used), the spacer portion 14 may be dimensioned and positioned so that it acts as a dam which constrains the spreading of the adhesive material. The same applies to other spacer portions mentioned hereinafter.

As was mentioned above, in this embodiment, the raised portion of the profile 11 is in the form of a curled lip 12 having a base 15 which extends away from the glazing, the remainder of the lip (comprising the body 16 and the tip 17 of the lip) then curling over towards the mounting flange 5 in the form of a scroll. When suitably proportioned, this shape of raised portion is capable of centring the glazing during insertion, retaining the glazing in position while the adhesive sets (both of which will be explained in more detail in connection with Fig 3 below), and covering the edge 8 of the mounting flange, thereby eliminating the need for a separate trim strip on this edge.

Optionally, the space defined by the lip curling over may be utilised for an auxiliary component, for

example, one or more electrical wires or leads 103 may be housed within this space. Such leads may be used to provide electric power to electric equipment on or adjacent the window, such as a heating element disposed on the window, or a window wiper. Safety legislation in some countries now requires a further brake lamp to be provided, mounted on the rear window, and the wiring for such brake lamps may conveniently be concealed within the curl of the lip 12. Alternatively the lead(s) 103 may be used to carry the signal from an antenna mounted on or near the window. Although these leads are only shown in Fig 1, they can of course be included in any of the embodiments of the invention.

After installation of the glazing, a small and uniform gap denoted by arrow Z may remain between the pane 1 and the bodywork 3. If trimless glazing is preferred this gap may be left as it is, or alternatively it may be filled by a separate finishing trim strip 100 to avoid dirt and moisture collecting in the gap, albeit with some loss of flushness. The use of a finishing trim strip is especially preferred when the pane 1 is of laminated glass. Alternatively, the second embodiment may be employed, as will now be described.

Fig 2 shows a second embodiment of the invention, which in many respects is the same as the first embodiment, but in which the glazing 20 includes a modified glazing profile 21. The modified profile includes a "drooping" sealing lip 28, i.e. a short lip on the peripheral side of the profile, which initially extends outwards from the glazing 20, but curves round towards a direction perpendicular to the faces of the glazing. This lip 28 does not centre the glazing during insertion, but merely comes to rest against the vehicle bodywork to seal against ingress of dirt and moisture in a similar way to finishing strip 100.

Preferably the profile 21 also includes a second spacer portion 24 to which the sealing lip 28 is

CLAIMS

1. A window for a vehicle, comprising a glazing (10,20,30,40,50) including an elastomeric glazing profile (11,21,31,41,51) disposed around at least part of its periphery on a margin of a face of the glazing, and a mounting flange (5) having an inner edge (8) defining an aperture in a vehicle body,the glazing being inserted in the aperture from outside the vehicle body, characterised in that

the profile includes a raised portion shaped and positioned to centre the glazing within the aperture during insertion in the aperture by bearing against the inner edge of the mounting flange, and the glazing is bonded to the mounting flange by an adhesive material (4).

2. A window as claimed in claim 1, wherein

the profile includes a raised portion in the form of a lip (12,22,32,42) extending away from the glazing which, after insertion of the glazing in the aperture, extends beyond the edge of the mounting flange of the vehicle body and over the face (19) of the mounting flange which faces away from the glazing.

3. A window as claimed in claim 1 or claim 2, wherein the profile further includes a spacer portion (14, 24A", 54) on the peripheral side of the raised portion, the spacer portion abutting against the mounting flange during installation thereby acting as a stop for the glazing and maintaining the glazing in fixed spaced relationship to the mounting flange.

4. A window as claimed in any preceding claim, wherein the raised portion of the profile is adapted to retain the glazing in a centred position while the adhesive sets.

5. A window as claimed in any preceding claim, wherein the glazing profile further includes a lip (28) on its peripheral side, the base of the lip extending outwards from the glazing, and the body of the lip

extending in a curve towards a direction perpendicular to the faces of the glazing so that the lip seals against the mounting flange after installation.

6. A window as claimed in any preceding claim, wherein the raised portion of the profile is in the form of a curled lip (12, 22, 32, 42) having a base (15, 45) which extends away from the glazing, the remainder of the lip curling over towards the mounting flange.

7. A window as claimed in claim 6, including means (102, 39) of pulling the lip over the mounting flange after insertion of the glazing in the aperture.

8. A window as claimed in claim 7, wherein the means comprises a metal wire (102) provided in a space defined by the lip curling over.

9. A window as claimed in claim 7, wherein the means comprises a cord (102) provided in a space defined by the lip curling over.

10. A window as claimed in claim 7, wherein the tip of the lip includes a narrow neck portion (38) which joins a bead (39) to the body of the lip, the neck portion being strong enough to allow the lip to be pulled over the mounting flange, but weak enough to allow the bead to detach from the body of the lip as soon as the lip has been pulled over the mounting flange.

11. A window as claimed in claim 6, wherein at least one electrical wire is provided in a space defined by the lip curling over.

12. A window as claimed in any one of claims 1 to 5, wherein the raised portion (52) of the profile includes a first surface (55) at a first slanting angle to the mounting flange (5) for initial centring of the glazing (50) as it is offered into the aperture during installation, a second surface (56) at a second slanting angle to the mounting flange for maintaining the centred position of the glazing after insertion in the aperture, and a step (57) between the first and second surfaces in which the inner edge (8) of the mounting flange engages

during insertion of the glazing so that the glazing is retained in position relative to the flange.

13. A window as claimed in claim 12, wherein the raised portion of the profile includes a groove (59) extending around the profile in a direction generally parallel to the glazing and on an inward-facing face of the profile.

14. A window as claimed in any preceding claim, wherein the glazing profile comprises a single piece of elastomeric material.

15. A glazing as claimed in any preceding claim, comprising a pane of glazing material and an elastomeric glazing profile.

16. A vehicle glazing (10, 20, 30, 40, 50) comprising a pane of glazing material (1) and an elastomeric glazing profile (11, 21, 31, 41, 51) disposed on a margin of a face of the pane around at least part of the periphery of the pane, characterised in that

the profile includes a raised portion shaped and positioned to centre the glazing within an aperture in a vehicle body during insertion of the glazing into the aperture from outside the vehicle body, the centring of the glazing being achieved by the raised portion bearing against the inner edge (8) of a mounting flange (5) surrounding the aperture, that the glazing is bonded to the mounting flange by an adhesive (4), and that the raised portion is further shaped and positioned to retain the glazing in a centred position while the adhesive sets.

17. A glazing profile as claimed in any preceding claim.

18. A seal element applied along the whole internal perimeter of a sheet of glass destined to be glued onto the bodywork of a vehicle by means of adhesive (4), having at least a first elastic seal tongue (48) to lie against sald bodywork, which protrudes from the edge of the glass in a direction that is essentially parallel to

the glass, characterised in that it comprises a second tongue (42) on the opposite edge to said first seal tongue (48), said second tongue protruding at the root in a direction that is essentially perpendicular to the glass, and taking on in its end portion the shape of a curl elastically curling over backwards upon itself towards the edge of the glass.

19. A seal element according to claim 18, characterised in that said tongue (42) has different thicknesses (b1, b2, b3) which decrease from the root towards the intermediate portion and from the latter towards the end portion.

20. A seal element according to claim 19, characterised in that the ratio between the thickness (b2) of said intermediate portion and the thickness (b3) of said end portion is greater than 1.2 and the ratio between the thickness (b1) at the root and the thickness (b2) of the intermediate portion is greater than 1.5.

21. A seal element according to any one of claims 18 to 20, further comprising a slot (A) for application of said adhesive (4), characterised in that two beads (A') and (A"), differently spaced with respect to said first seal tongue, border said slot and have a height (a') and (a"), respectively, such as to contain the adhesive during gluing.

22. A seal element according to claim 21, in which the height of said beads (A', A") is such that the ratio between the height (a') of the bead (A') furthest from said first seal tongue (48) and the height (a") of the bead (A") closest to said first seal tongue (48) is greater than 1.

23. A method of glazing a window in a vehicle, including: providing a glazing including an elastomeric glazing profile disposed on a margin of a face of the glazing around at least part of its periphery, and a mounting flange having an inner edge defining an aperture in a vehicle body, applying a bead of adhesive material

AMENDED SHEET

to the glazing or the mounting flange, offering the glazing to the aperture from outside the vehicle body, including centring the glazing relative to the aperture as it is inserted, characterised by centring the glazing by means of a raised portion of the glazing profile shaped and positioned to bear against the inner edge of the mounting flange.

24. A method as claimed in claim 23, wherein the raised portion of the profile retains the glazing in position while the adhesive sets.

25. A method as claimed in claim 23 or 24, wherein the raised portion includes a lip, the method additionally including pulling the lip over the mounting flange.

26. A method of centring a glazing relative to an aperture in a vehicle body as claimed in claim 23.

PATENT COOPERATION TREATY

From the INTERNATIONAL SEARCHING AUTHORITY

PCT

NOTIFICATION OF TRANSMITTAL OF THE INTERNATIONAL SEARCH REPORT OR THE DECLARATION

(PCT Rule 44.1)

To:
Società Italiana Brevetti S.p.A.
Attn. BAZZICHELLI, Alfredo
39 Piazza di Pietra
I - 00186 Roma
ITALY

RICEVUTO

SOCIETÀ ITALIANA BREVETTI S.p.A.

Applicant's or agent's file reference RM/X88636/PC	Date of mailing *(day/month/year)* FOR FURTHER ACTION See paragraphs 1 and 4 below
International application No. PCT/IT 96/00202	International filing date *(day/month/year)* 04/11/1996

Applicant

SOCIETA ITALIANA VETRO -SIV- S.P.A. et al.

1. [X] The applicant is hereby notified that the International Search Report has been established and is transmitted herewith.

Filing of amendments and statement under Article 19:
The applicant is entitled, if he so wishes, to amend the claims of the International Application (see Rule 46):

When? The time limit for filing such amendments is normally 2 months from the date of transmittal of the International Search Report; however, for more details, see the notes on the accompanying sheet.

Where? Directly to the International Bureau of WIPO
34, chemin des Colombettes
1211 Geneva 20, Switzerland
Fascimile No.: (41-22) 740.14.35

For more detailed instructions, see the notes on the accompanying sheet.

2. [ ] The applicant is hereby notified that no International Search Report will be established and that the declaration under Article 17(2)(a) to that effect is transmitted herewith.

3. [ ] **With regard to the protest** against payment of (an) additional fee(s) under Rule 40.2, the applicant is notified that:

[ ] the protest together with the decision thereon has been transmitted to the International Bureau together with the applicants's request to forward the texts of both the protest and the decision thereon to the designated Offices.

[ ] no decision has been made yet on the protest; the applicant will be notified as soon as a decision is made.

4. **Further action(s):** The applicant is reminded of the following:

Shortly after **18 months** from the priority date, the international application will be published by the International Bureau. If the applicant wishes to avoid or postpone publication, a notice of withdrawal of the international application, or of the priority claim, must reach the International Bureau as provided in Rules 90*bis*.1 and 90*bis*.3, respectively, before the completion of the technical preparations for international publication.

Within **19 months** from the priority date, a demand for international preliminary examination must be filed if the applicant wishes to postpone the entry into the national phase until 30 months from the priority date (in some Offices even later).

Within **20 months** from the priority date, the applicant must perform the prescribed acts for entry into the national phase before all designated Offices which have not been elected in the demand or in a later election within 19 months from the priority date or could not be elected because they are not bound by Chapter II.

Name and mailing address of the International Searching Authority	Authorized officer
European Patent Office, P.B. 5818 Patentlaan 2 NL-2280 HV Rijswijk Tel. (+31-70) 340-2040, Tx. 31 651 epo nl, Fax: (+31-70) 340-3016	Catherine Van der Zijden

Form PCT/ISA/220 (January 1994)

NOTES TO FORM PCT/ISA/220

These Notes are intended to give the basic instructions concerning the filing of amendments under article 19. The Notes are based on the requirements of the Patent Cooperation Treaty, the Regulations and the Administrative Instructions under that Treaty. In case of discrepancy between these Notes and those requirements, the latter are applicable. For more detailed information, see also the PCT Applicant's Guide, a publication of WIPO.

In these Notes, "Article", "Rule", and "Section" refer to the provisions of the PCT, the PCT Regulations and the PCT Administrative Instructions respectively.

INSTRUCTIONS CONCERNING AMENDMENTS UNDER ARTICLE 19

The applicant has, after having received the international search report, one opportunity to amend the claims of the international application. It should however be emphasized that, since all parts of the international application (claims, description and drawings) may be amended during the international preliminary examination procedure, there is usually no need to file amendments of the claims under Article 19 except where, e.g. the applicant wants the latter to be published for the purposes of provisional protection or has another reason for amending the claims before international pbulication. Furthermore, it should be emphasized that provisional protection is available in some States only.

What parts of the international application may be amended?

Under Article 19, only the claims may be amended.

During the international phase, the claims may also be amended (or further amended) under Article 34 before the International Preliminary Examining Authority. The description and drawings may only be amended under Article 34 before the International Examining Authority.

Upon entry into the national phase, all parts of the international application may be amended under Article 28 or, where applicable, Article 41.

When?

Within 2 months from the date of transmittal of the international search report or 16 months from the priority date, whichever time limit expires later. It should be noted, however, that the amendments will be considered as having been received on time if they are received by the International Bureau after the expiration of the applicable time limit but before the completion of the technical preparations for international publication (Rule 46.1).

Where not to file the amendments?

The amendments may only be filed with the International Bureau and not with the receiving Office or the International Searching Authority (Rule 46.2).

Where a demand for international preliminary examination has been/is filed, see below.

How?

Either by cancelling one or more entire claims, by adding one or more new claims or by amending the text of one or more of the claims as filed.

A replacement sheet must be submitted for each sheet of the claims which, on account of an amendment or amendments, differs from the sheet originally filed.

All the claims appearing on a replacement sheet must be numbered in Arabic numerals. Where a claim is cancelled, no renumbering of the other claims is required. In all cases where claims are renumbered, they must be renumbered consecutively (Administrative Instructions, Section 205(b)).

The amendments must be made in the language in which the international application is to be published.

What documents must/may accompany the amendments?

Letter (Section 205(b)):

The amendments must be submitted with a letter.

The letter will not be published with the international application and the amended claims. It should not be confused with the "Statement under Article 19(1)" (see below, under "Statement under Article 19(1)").

The letter must be in English or French, at the choice of the applicant. However, if the language of the international application is English, the letter must be in English; if the language of the international application is French, the letter must be in French.

NOTES TO FORM PCT/ISA/220 (continued)

The letter must indicate the differences between the claims as filed and the claims as amended. It must, in particular, indicate, in connection with each claim appearing in the international application (it being understood that identical indications concerning several claims may be grouped),whether

(i) the claim is unchanged;

(ii) the claim is cancelled;

(iii) the claim is new;

(iv) the claim replaces one or more claims as filed;

(v) the claim is the result of the division of a claim as filed.

The following examples illustrate the manner in which amendments must be explained in the accompanying letter:

1. [Where originally there were 48 claims and after amendment of some claims there are 51]:
"Claims 1 to 29, 31, 32, 34, 35, 37 to 48 replaced by amended claims bearing the same numbers; claims 30, 33 and 36 unchanged; new claims 49 to 51 added."

2. [Where originally there were 15 claims and after amendment of all claims there are 11]:
"Claims 1 to 15 replaced by amended claims 1 to 11."

3. [Where originally there were 14 claims and the amendments consist in cancelling some claims and in adding new claims]:
"Claims 1 to 6 and 14 unchanged; claims 7 to 13 cancelled; new claims 15, 16 and 17 added." or
"Claims 7 to 13 cancelled; new claims 15, 16 and 17 added; all other claims unchanged."

4. [Where various kinds of amendments are made]:
"Claims 1-10 unchanged; claims 11 to 13, 18 and 19 cancelled; claims 14, 15 and 16 replaced by amended claim 14; claim 17 subdivided into amended claims 15, 16 and 17; new claims 20 and 21 added."

"Statement under article 19(1)" (Rule 46.4)

The amendments may be accompanied by a statement explaining the amendments and indicating any impact that such amendments might have on the description and the drawings (which cannot be amended under Article 19(1)).

The statement will be published with the international application and the amended claims.

It must be in the language in which the international appplication is to be published.

It must be brief, not exceeding 500 words if in English or if translated into English.

It should not be confused with and does not replace the letter indicating the differences between the claims as filed and as amended. It must be filed on a separate sheet and must be identified as such by a heading, preferably by using the words "Statement under Article 19(1)."

It may not contain any disparaging comments on the international search report or the relevance of citations contained in that report. Reference to citations, relevant to a given claim, contained in the international search report may be made only in connection with an amendment of that claim.

Consequence if a demand for international preliminary examination has already been filed

If, at the time of filing any amendments under Article 19, a demand for international preliminary examination has already been submitted, the applicant must preferably, at the same time of filing the amendments with the International Bureau, also file a copy of such amendments with the International Preliminary Examining Authority (see Rule 62.2(a), first sentence).

Consequence with regard to translation of the international application for entry into the national phase

The applicant's attention is drawn to the fact that, where upon entry into the national phase, a translation of the claims as amended under Article 19 may have to be furnished to the designated/elected Offices, instead of, or in addition to, the translation of the claims as filed.

For further details on the requirements of each designated/elected Office, see Volume II of the PCT Applicant's Guide.

PATENT COOPERATION TREATY

From the
INTERNATIONAL PRELIMINARY EXAMINING AUTHORITY

PCT

To:
BAZZICHELLI, Alfredo
Società Italiana Brevetti S.p.A.
39 Piazza di Pietra
00186 Roma
ITALIE

WRITTEN OPINION

(PCT Rule 66)

SOCIETÀ ITALIANA BREVETTI S.p.A.
Piazza di Pietra, 39
00186 ROMA

Date of mailing *(day/month/year)*	04.06.97
Applicant's or agent's file reference: RM/X88636/PC	REPLY DUE within 3 months from the above date of mailing

International application No.	International filing date *(day/month/year)*	Priority date *(day/month/year)*
PCT/IT 96/00202	04/11/1996	06/11/1995

International Patent Classification (IPC) or both national classification and IPC
B60J10/02

Applicant
SOCIETA ITALIANA VETRO -SIV- S.P.A. et al.

1. This written opinion is the first (first, etc.) drawn up by this International Preliminary Examining Authority.
2. This report contains indications and corresponding pages relating to the following items:
   - I [X] Basis of the opinion
   - II [ ] Priority
   - III [ ] Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
   - IV [ ] Lack of unity of invention
   - V [X] Reasoned statement under Rule 66.2(a)(ii) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
   - VI [ ] Certain documents cited
   - VII [ ] Certain defects in the international application
   - VIII [ ] Certain observations on the international application
3. The applicant is hereby **invited to reply** to this opinion.
   When? See the time limit indicated above. The applicant may, before the expiration of that time limit, request this Authority to grant an extension, see Rule 66.2(d).
   How? By submitting a written reply, accompanied, where appropriate, by amendments, according to Rule 66.3. For the form and the language of the amendments, see Rules 66.8 and 66.9.
   Also For an additional opportunity to submit amendments, see Rule 66.4. For the examiner's obligation to consider amendments and/or arguments, see Rule 66.4*bis*. For an informal communication with the examiner, see Rule 66.6.
   If no reply is filed, the international preliminary examination report will be established on the basis of this opinion.
4. The final date by which the international preliminary examination report must be established according to Rule 69.2 is: 06/03/1998

Name and mailing address of the IPEA/
European Patent Office
D-80298 Munich
Tel. (+49-89) 2399-0, Tx: 523656 epmu d
Fax: (+49-89) 2399-4465

Authorized officer
Examiner

Formalities officer
(incl. extension of time limits)
Telephone No. 8211
Antoinette Moris

Intern. application No.

PCT/IT96/00202

WRITTEN OPINION

I. Basis of the opinion

1. This opinion has been drawn up on the basis of (Substitute sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this opinion as "originally filed".):

[x] the international application as originally filed.

[ ] the description, pages _____, as originally filed,
pages _____, filed with the demand,
pages _____, filed with the letter of _____,

[ ] the claims, Nos. _____, as originally filed,
Nos. _____, as amended under Article 19,
Nos. _____, filed with the demand,
Nos. _____, filed with the letter of _____,

[ ] the drawings, sheets/fig _____, as originally filed,
sheets/fig _____, filed with the demand,
sheets/fig _____, filed with the letter of _____,

2. The amendments have resulted in the cancellation of:

[ ] the description, pages _____.
[ ] the claims, Nos. _____.
[ ] the drawings, sheets/fig _____.

3. [ ] This opinion has been established as if (some of) the amendments had not been made, since they have been considered to go beyond the disclosure as filed (Rule 70.2(c)):

4. Additional observations, if necessary:

WRITTEN OPINION

V. Reasoned statement under Rule 66.2(a)(ii) with regard to novelty, inventive step and industrial applicability; citations and explanations supporting such statement

1. STATEMENT

Novelty (N)	Claims 3,5-11,13-21,23-25: JA Claims 1,2,4,12,22 : NEIN
Inventive Step (IS)	Claims Claims 3,5-11,13-21,23-25: NEIN
Industrial Applicability (IA)	Claims 1-25 : JA Claims

2. CITATIONS AND EXPLANATIONS

1. It is already known from EP-A-0 531 201 to provide a window for a vehicle, comprising a glazing (1, 12) including an elastomeric glazing profile (4, 14) disposed around at least part of its periphery on a margin of a face of the glazing, and a mounting flange (7, 8; 16, 17) having an inner edge (7) defining an aperture in a vehicle body. In this window,

- the profile (4, 14) includes a raised portion shaped and positioned to centre the glazing within the aperture during insertion in the aperture by bearing against the inner edge of the mounting flange (7, 8).

- the profile (4, 14) includes a raised portion in the form of a lip (see e.g. 18) extending away from the glazing which, after insertion of the glazing in the aperture, extends beyond the mounting flange (7, 8; 16, 17) of the vehicle body and over the face of the mounting flange which faces away from the glazing (1, 12).

Furthermore, the glazing (1, 12) is bonded to the mounting flange by an adhesive material (10, 19) and the raised portion of the profile is adapted to retain the glazing in position while the adhesive (10, 19) sets.

2. Therefore, the subject-matters of claims 1, 2 and 4 are not novel, contrary to the requirements of (1) and (2) .

3. Similarly, It is also already known from EP-A-304 694 (Figure 2) to provide a window having the same features as those recited in claim 1, especially with respect to the raised portion of the profile, which has a first surface at a first slanting angle to the mounting flange, a second surface at a second slanting angle to the mounting flange and a step between the first and second surfaces, i.e. exactly as those specified in claim 12. The method of glazing a window in a vehicle, as defined in claim 22, is also already disclosed in EP-A-0 304 694. Therefore, the subject-matters of claim 12 in combination with claim 1 and of claim 22 are not novel, contrary to the requirements of (1) and (2) .

4. The following observations are made to claim 17:

4.1. DE-A-4 309 088 (Figure 1) provides a seal element applied along the whole internal perimeter of a sheet of glass destined to be fixed to the bodywork of a vehicle, said seal element having at least a first elastic seal tongue to lie against said bodywork (24) and a second tongue (22) on the opposite edge to said first seal tongue (24), said first and second tongues (24, 22) having the features specified in claim 17.

4.2. The only difference between the subject-matter of claim 17 and the seal element disclosed in DE-A-4 309 088 being only that the sheet of glass is destined to fixed to the bodywork of a vehicle by gluing it by means of an

adhesive. The use of an adhesive as a fixing means is already commonly known in itself to a skilled person and falls within the scope of normal practice or experiment for him. Therefore, it would have been readily available to a skilled person to use an adhesive for fixing the sheet of glass to the bodywork disclosed in figure 1 of DE-A-4 309 088 and thus to arrive at the subject-matter of claim 17.

4.3. Therefore, the subject-matter of claim 17 does not seem to involve an inventive step, contrary to the requirements of (1) and (3) .

5. The subject-matter of each of claim 3, claims 5 to 11, claims 13 to 16, claims 18 to 21 and claims 23 to 25 seem to fall within the scope of normal practice or experimentation for the skilled person and thus does not seem to comply with Art.33 (1) and (3) PCT.

*****

INTERNATIONAL SEARCH REPORT

Int ional Application No
PCT/IT 96/00202

A. CLASSIFICATION OF SUBJECT MATTER
IPC 6 B60J10/02

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)
IPC 6 B60J

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	EP 0 531 201 A (SAINT-GOBAIN VITRAGE INTERNATIONAL) 10 March 1993 see the whole document ---	1-5
X	DE 43 09 088 A (RICHARD FRITZ + CO) 22 September 1994 see figures 1-8 ---	1-5
X	EP 0 304 694 A (METZELER) 1 March 1989 see figures 1,2 ---	1,12,22
A	EP 0 537 067 A (SAINT-GOBAIN VITRAGE INTERNATIONAL) 14 April 1993 see figures 1-3 --- -/--	1,5

[X] Further documents are listed in the continuation of box C.

[X] Patent family members are listed in annex.

* Special categories of cited documents :

"A" document defining the general state of the art which is not considered to be of particular relevance

"E" earlier document but published on or after the international filing date

"L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)

"O" document referring to an oral disclosure, use, exhibition or other means

"P" document published prior to the international filing date but later than the priority date claimed

"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention

"X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone

"Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art.

"&" document member of the same patent family

1

Date of the actual completion of the international search	Date of mailing of the international search report
19 February 1997	26/02/97

Name and mailing address of the ISA	Authorized officer
European Patent Office, P.B. 5818 Patentlaan 2 NL - 2280 HV Rijswijk Tel. (+31-70) 340-2040, Tx. 31 651 epo nl, Fax (+31-70) 340-3016	Kusardy, R

Form PCT/ISA/210 (second sheet) (July 1992)

INTERNATIONAL SEARCH REPORT

Int. onal Application No
PCT/IT 96/00202

C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	EP 0 345 134 A (SAINT-GOBAIN VITRAGE) 6 December 1989 cited in the application see figures 1-8	1,6,17
A	BE 647 370 A (HOWARD CLAYTON-WRIGHT) 17 August 1964 see figures 1-19	1,6,12, 17,22
A	PATENT ABSTRACTS OF JAPAN vol. 7, no. 221 (M-246) [1366] , 30 September 1983 & JP 58 116218 A (NISSAN JIDOSHA), 11 July 1983, see abstract	1,6,24
A	US 2 794 218 A (T.W. RAMSAY) 4 June 1957 see figures 1,2	1,6
A	US 2 683 905 A (H.G. BECK) 20 July 1954 see figures 1-3	24

1

INTERNATIONAL SEARCH REPORT

information on patent family members

Inter ıal Application No
PCT/IT 96/00202

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
EP-A-531201	10-03-93	DE-A- 4129052	04-03-93
		DE-D- 69201035	09-02-95
		DE-T- 69201035	20-07-95
		ES-T- 2068690	16-04-95
		JP-A- 5193354	03-08-93
		US-A- 5261718	16-11-93
DE-A-4309088	22-09-94	FR-A- 2702711	23-09-94
		US-A- 5584526	17-12-96
EP-A-304694	01-03-89	DE-A- 3728440	16-03-89
EP-A-537067	14-04-93	DE-A- 4133662	15-04-93
		AT-T- 139492	15-07-96
		CA-A- 2080289	12-04-93
		DE-D- 69211644	25-07-96
		DE-T- 69211644	23-01-97
		ES-T- 2089451	01-10-96
		JP-A- 5302481	16-11-93
EP-A-345134	06-12-89	DE-A- 3818930	14-12-89
		AT-T- 112720	15-10-94
		AU-B- 618811	09-01-92
		AU-A- 3523289	07-12-89
		CA-A- 1322270	21-09-93
		CA-A- 1336613	08-08-95
		DE-D- 68911385	27-01-94
		DE-T- 68911385	26-05-94
		DE-D- 68918873	17-11-94
		DE-T- 68918873	04-05-95
		EP-A- 0545896	09-06-93
		ES-T- 2048851	01-04-94
		ES-T- 2065189	01-02-95
		JP-A- 2106427	18-04-90
		US-A- 4933032	12-06-90
BE-A-647370	17-08-64	FR-A- 1394484	15-07-65
		NL-A- 6404806	02-11-64
US-A-2794218	04-06-57	FR-A- 1133132	21-03-57

INTERNATIONAL SEARCH REPORT

Information on patent family members

Inter[illegible]nal Application No
PCT/IT 96/00202

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
US-A-2794218		GB-A- 766597	
US-A-2683905	20-07-54	NONE	

PATENT COOPERATION TREATY

RECD 14 OCT 1997
WIPO PCT

PCT

INTERNATIONAL PRELIMINARY EXAMINATION REPORT

(PCT Article 36 and Rule 70)

Applicant's or agent's file reference	FOR FURTHER ACTION	See Notification of Transmittal of International Preliminary Examination Report (Form PCT/IPEA/416)
RM/X88636/PC		
International application No.	International filing date (day/month/year)	Priority date (day/month/year)
PCT/IT 96/00202	04/11/1996	06/11/1995
International Patent Classification (IPC) or national classification and IPC		
B60J10/02		
Applicant		
SOCIETA ITALIANA VETRO -SIV- S.P.A. et al.		

1. This international preliminary examination report has been prepared by this International Preliminary Examining Authority and is transmitted to the applicant according to Article 36.

2. This REPORT consists of a total of 7 sheets, including this cover sheet.

☒ This report is also accompanied by ANNEXES, i.e., sheets of the description, claims and/or drawings which have been amended and are the basis for this report and/or sheets containing rectifications made before this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions under the PCT).

These annexes consists of a total of 10 sheets.

3. This report contains indications and corresponding pages relating to the following items:

- I [X] Basis of the report
- II [ ] Priority
- III [ ] Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
- IV [ ] Lack of unity of invention
- V [X] Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
- VI [ ] Certain documents cited
- VII [ ] Certain defects in the international application
- VIII [ ] Certain observations on the international application

Date of submission of the demand	Date of completion of this report
06/05/1997	13. 10. 97
Name and mailing address of the IPEA/	Authorized officer
European Patent Office D-80298 Munich Tel. (+49-89) 2399-0, Tx: 523656 epmu d Fax: (+49-89) 2399-4465	J. Durand-Smet
	Telephone No.

Intern. application No.

INTERNATIONAL PRELIMINARY EXAMINATION REPORT

PCT/IT96/00202

I. Basis of the report

1. This report has been drawn up on the basis of (Replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to the report since they do not contain amendments.):

[ ] the international application as originally filed.

[x] the description, pages 1-3,6,10-15, as originally filed,
pages _____, filed with the demand,
pages 4,5,7-9, filed with the letter of 19.09.97,
pages _____, filed with the letter of _____,

[x] the claims, Nos. _____, as originally filed,
Nos. _____, as amended under Article 19,
Nos. _____, filed with the demand,
Nos. 1-26, filed with the letter of 19.09.97,
Nos. _____, filed with the letter of _____,

[x] the drawings, sheets/fig 1/4-4/4, as originally filed,
sheets/fig _____, filed with the demand,
sheets/fig _____, filed with the letter of _____,
sheets/fig _____, filed with the letter of _____.

2. The amendments have resulted in the cancellation of:

[ ] the description, pages _____.
[ ] the claims, Nos. _____.
[ ] the drawings, sheets/fig _____.

3. [ ] This report has been established as if (some of) the amendments had not been made, since they have been considered to go beyond the disclosure as filed (Rule 70.2(c)):

4. Additional observations, if necessary:

INTERNATIONAL PRELIMINARY EXAMINATION REPORT

V. Reasoned statement under Article 35(2) with regard to novelty, inventive step and industrial applicability; citations and explanations supporting such statement

1. STATEMENT

Novelty (N)	Claims 1-26	YES
	Claims	NO
Inventive Step (IS)	Claims	YES
	Claims 1-26	NO
Industrial Applicability (IA)	Claims 1-26	YES
	Claims	NO

2. CITATIONS AND EXPLANATIONS

1. It is already known from EP-A-0 531 201 to provide a window for a vehicle, comprising a glazing (1, 12) including an elastomeric glazing profile (4, 14) disposed around at least part of its periphery on a margin of a face of the glazing, and a mounting flange (7, 8; 16, 17) having an inner edge (7) defining an aperture in a vehicle body. In this window:

- the profile includes a raised portion, shaped and positioned to centre the glazing within the aperture during insertion in the aperture by bearing against the inner edge of the mounting flange (7, 8), and the glazing (1, 12) is bonded to the mounting flange (7, 8) by an adhesive material (10, 19). Although EP-A-0 531 201 does not explicitly specifies that the raised portion is shaped and positioned to center the glazing, the "co-operation" between the raised portion and the mounting flange does extend to centring the glazing within an aperture in a vehicle body or, in other words, the profile strand (4) disclosed in EP-A-0 531 201 is quite capable

of centring the glazing on insertion because of its elasticity, see EP-A-0 531 201, column 4, lines 4 to 11: *"Grâce à ses propriétés caoutchoutiques, le cadre profilé 4 traverse la baie de fenêtre dans la carrosserie, le long du bord 7 de la tôle de fixation 8, de sorte que la rainure d'accrochage 6 forme une liaison à épousement de forme et transfert de force avec le bord 7 de la tôle de fixation 8. Le vitrage 1 est ainsi fixé en sa position. Le cordon de colle 10 peut alors durcir."*

- the profile includes a raised portion in the form of a lip (4, 14, 18) extending axay from the glazing which, after insertion of the glazing in the aperture, extends beyond the edge of the mounting flange of the vehicle body and over the face of the mounting flange which faces away from the glazing (1, 12).

- the profile further includes a spacer portion (referred to under (21) in figure 2 of EP-A-0 531 201; see also column 4, lines 33 and 34: *"Cette nervure 21 sert d'arrêt pour la matière adhésive du cordon de colle 19"*).

- the raised portion of the profile is adapted to retain the glazing in a centred position while the adhesive (10, 19) sets.

2. Vis-à-vis this prior art window, the subject-matters of claims 1 to 4 differs merely by the fact that the glazing is inserted in the aperture from outside the vehicle body. Instead of this, this prior art glazing is inserted in the aperture from inside the vehicle body, so that the adhesive material is protected by the mounting flange from the UV rays coming from outside, see EP-A-0 531 201, column 1, lines 43 to 47: *"Tout d'abord, l'application sur le vitrage d'une couche empêchant le*

passage des rayons ultraviolets devient superflue, car cette fonction est, dans la fenêtre selon l'invention, reprise par la tôle de fixation elle-même." Should the need of protecting the adhesive material disappear, then it would be readily available to apply the centering function of the raised portion taught by EP-A-0 531 201 to a classical type of a window referred to at the beginning of EP-A-0 531 201, column 1, lines 8 to 28, in which the glazing is being inserted in the aperture from outside the vehicle body and thus to arrive at the subject-matters of claims 1 to 4.

3. Therefore, the subject-matter of each of the claims 1 to 4 does not involve an inventive step, contrary to the requirements of Art.33(1) and (3) PCT.

4. The vehicle glazing disclosed in EP-A-0 531 201 has practically all the features recited in claim 16. The glazing according to claim 16 differs from this prior art glazing merely by its insertion in the aperture from outside the vehicle body. Therefore, for the reasons set out in paragraph 2. above, the subject-matter of claim 16 does not involve an inventive step, contrary to the requirements of Art.33(1) and (3) PCT.

5. The following observations are made to claim 18:

5.1. It is already known from EP-A-0 531 201 to provide a seal element applied along the whole internal perimeter of a sheet of glass (1, 12) destined to be glued onto the bodywork (7, 8; 15, 16) of a vehicle by means of adhesive (10, 19). This prior art seal element comprises a tongue (4, 18) one one edge, said tongue protruding at the root in a direction that is essentially perpendicular to the glass (1, 12) and taking on in its end portion the shape of a curl elastically curling over backwards upon itself towards the edge of the glass (1,

12).

5.2. Vis-à-vis this prior art seal element, the subject-matter of claim 18 differs in that the seal element has at least an elastic seal tongue to lie against said bodywork, which protrudes from the edge of the glass in a direction that is essentially parallel to the glass. Such a tongue is however already employed with the same effect as the second tongue referred to in claim 18 as being on the opposite edge to said seal tongue perpendicular to the glass, see EP-A-0 345 134 (Figures 3 and 4) or US-A-5,384,995. Furthermore, the seal element according to claim 18 appears to be merely a juxtaposition of a first and and second tongue known per se from EP-A-0 345 134 or US-A-5,384,995 and from EP-A-0 531 201 respectively and referred to in claim 18 as being at the opposite edges of a seal element. In such a seal element, they are functioning in their normal way without producing any non-obvious working inter-relationship. In other words, it would have been readily available to the skilled person to provide a tongue as disclosed in EP-A-0 345 134 or US-A-5,384,995 on the seal element according to EP-A-0 531 201 and thus to arrive at the subject-matter of claim 18 without producing any surprising effect.

5.3. Therefore, the subject-matter of claim 18 does not seem to involve an inventive step, contrary to the requirements of Art.33(1) and (3) PCT.

6. The method according to claim 23 is similar from that disclosed in DE-A-0 304 694. It differs from this prior art method merely by the fact that a bead of adhesive material is applied to the glazing or the mounting flange. Should the skilled person, however, seek to have a permanent bonding between the glazing and the mounting flange of EP-A-0 304 694, then it would have been obvi-

ous to use an adhesive material as taught by EP-A-0 345 134 or US-A-5,384,995 with respect to a similar method of glazing a window in a vehicle, and thus to arrive at the subject-matter of claim 23. Therefore, the subject-matter of claim 23 does not seem to involve an inventive step, contrary to the requirements of Art.33(1) and (3) PCT.

7. The subject-matter of each of the dependent claims or those appendant to the independent claims 1, 16, 18 and 23 seems to be partially known per se from the prior art noted above or seems to fall within the scope of normal practice or experimentation for the skilled person. Therefore, they do not comply with Art.33(1) and (3) PCT.

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elastomeric glazing profile disposed around at least part of its periphery on a margin of a face of the glazing, and a mounting flange having an inner edge defining an aperture in a vehicle body, the glazing being inserted in the aperture from outside the vehicle body, characterised in that the profile includes a raised portion shaped and positioned to centre the glazing within the aperture during insertion in the aperture by bearing against the inner edge of the mounting flange, and the glazing is bonded to the mounting flange by an adhesive material.

This window has the advantage that the centring element of the profile is not exposed to the weather or to UV radiation. Indeed, in many embodiments of the invention, the whole profile is protected from these harmful agents. The functional element of the profile is also better protected from accidental damage, allows trimless glazing if desired and may be adapted to perform additional functions as described below.

The term "inner" is intended here to mean "towards the centre of the aperture", and "edge" is to be interpreted as including any narrow face in which the mounting flange terminates as well as a meeting-line of such a face with one of the major faces of the mounting flange.

Preferably, the profile includes a raised portion in the form of a lip extending away from the glazing which, after insertion of the glazing in the aperture, extends beyond the edge of the mounting flange of the vehicle body and over the face of the mounting flange which faces away from the glazing.

The glazing profile of this version of the window may eliminate the need for a separate piece of interior trim, thereby simplifying the assembly of the vehicle and reducing the manufacturing costs of the vehicle, while improving the aesthetics of the passenger compartment.

Preferably the glazing profile further includes a spacer portion on the peripheral side of the raised

portion, the spacer portion abutting against the mounting flange during installation thereby acting as a stop for the glazing and maintaining the glazing in fixed spaced relationship to the mounting flange. Such a spacer portion ensures that the window may be accurately glazed flush with the surrounding bodywork.

Preferably the raised portion of the glazing profile is adapted to retain the glazing in a centred position while the adhesive used to bond the glazing sets. The need for separate clips, clamps or other supports is thereby eliminated.

According to another aspect of the invention, there is provided a method of glazing a window in a vehicle, including:

providing a glazing including an elastomeric glazing profile disposed on a margin of a face of the glazing around at least part of its periphery, and a mounting flange having an inner edge defining an aperture in a vehicle body,

applying a bead of adhesive material to the glazing or the mounting flange,

offering the glazing to the aperture from outside the vehicle body, including

centring the glazing relative to the aperture as it is inserted,

characterised by centring the glazing by means of a raised portion of the glazing profile shaped and positioned to bear against the inner edge of the mounting flange.

According to a further aspect, the invention also provides a method of centring a glazing relative to an aperture in a vehicle body as herein described, regardless of the means employed to attach the glazing to the vehicle body.

manufactured by extrusion or a moulding process, e. g. injection or flow-moulding, as appropriate. In the embodiments of the invention herein described, the glazing is attached to the vehicle body by means of an adhesive material 4.

The mounting flange 5 comprises a parallel portion 6 which is substantially parallel to both the external bodywork 7 and the pane of glazing material 1 where they meet. The parallel portion of the mounting flange 5 ends at an extreme inner edge 8 which defines an aperture in the vehicle body. Between the parallel portion 6 and the external bodywork 7 is a distance portion 9 which spaces the parallel portion from the external bodywork 7. The mounting flange has two faces 18 and 19; face 18 faces the glazing whereas face 19 faces away from it.

The glazing normally also includes an obscuration band 2, comprising an opaque layer e.g. of ceramic ink, which serves both to obscure the glazing profile, adhesive and mounting flange from external view thereby improving the aesthetic appearance of the vehicle, and to protect those elements from the effect of sunlight, especially the ultra-violet component. It is an advantage of the present invention that, if desired, the whole glazing profile may be obscured from view and protected from weathering (including the effect of UV radiation) by the pane of glazing material and especially by the obscuration band.

The glazing profile comprises at its simplest a bed portion 13 and a raised portion, which in this embodiment is in the form of a curled lip 12. Preferably there is also a spacer portion 14 on the peripheral side of the raised portion, i.e. on the side towards the periphery of the glazing. During insertion of the glazing, the spacer portion 14 will come to abut onto face 18 of the parallel

portion 6 of the mounting flange 5, thereby acting as a stop for the glazing and maintaining it in fixed spaced relationship to the mounting flange.

Generally the spacer 14 will be of uniform thickness around the glazing to maintain the glazing 10 at a uniform spacing from the mounting flange 5. However, should the depth of the distance portion 9 of the mounting flange vary around the aperture, the thickness of the spacer portion and raised position can also be raised to compensate. Clearly, if the glazing is to be glazed flush with the external bodywork, the combined thickness of the pane 1 and the spacer portion 14 should be approximately equal to the depth of the distance portion 9.

The adhesive material 4 employed is generally sufficiently viscous to remain substantially in position after application; however, if the need arises (e.g. if an adhesive material of unusually low viscosity is to be used), the spacer portion 14 may be dimensioned and positioned so that it acts as a dam which constrains the spreading of the adhesive material. The same applies to other spacer portions mentioned hereinafter.

As was mentioned above, in this embodiment, the raised portion of the profile 11 is in the form of a curled lip 12 having a base 15 which extends away from the glazing, the remainder of the lip (comprising the body 16 and the tip 17 of the lip) then curling over towards the mounting flange 5 in the form of a scroll. When suitably proportioned, this shape of raised portion is capable of centring the glazing during insertion, retaining the glazing in position while the adhesive sets (both of which will be explained in more detail in connection with Fig 3 below), and covering the edge 8 of the mounting flange, thereby eliminating the need for a separate trim strip on this edge.

Optionally, the space defined by the lip curling over may be utilised for an auxiliary component, for

example, one or more electrical wires or leads 103 may be housed within this space. Such leads may be used to provide electric power to electric equipment on or adjacent the window, such as a heating element disposed on the window, or a window wiper. Safety legislation in some countries now requires a further brake lamp to be provided, mounted on the rear window, and the wiring for such brake lamps may conveniently be concealed within the curl of the lip 12. Alternatively the lead(s) 103 may be used to carry the signal from an antenna mounted on or near the window. Although these leads are only shown in Fig 1, they can of course be included in any of the embodiments of the invention.

After installation of the glazing, a small and uniform gap denoted by arrow Z may remain between the pane 1 and the bodywork 3. If trimless glazing is preferred this gap may be left as it is, or alternatively it may be filled by a separate finishing trim strip 100 to avoid dirt and moisture collecting in the gap, albeit with some loss of flushness. The use of a finishing trim strip is especially preferred when the pane 1 is of laminated glass. Alternatively, the second embodiment may be employed, as will now be described.

Fig 2 shows a second embodiment of the invention, which in many respects is the same as the first embodiment, but in which the glazing 20 includes a modified glazing profile 21. The modified profile includes a "drooping" sealing lip 28, i.e. a short lip on the peripheral side of the profile, which initially extends outwards from the glazing 20, but curves round towards a direction perpendicular to the faces of the glazing. This lip 28 does not centre the glazing during insertion, but merely comes to rest against the vehicle bodywork to seal against ingress of dirt and moisture in a similar way to finishing strip 100.

Preferably the profile 21 also includes a second spacer portion 24 to which the sealing lip 28 is

CLAIMS

1. A window for a vehicle, comprising a glazing (10,20,30,40,50) including an elastomeric glazing profile (11,21,31,41,51) disposed around at least part of its periphery on a margin of a face of the glazing, and a mounting flange (5) having an inner edge (8) defining an aperture in a vehicle body,the glazing being inserted in the aperture from outside the vehicle body, characterised in that

the profile includes a raised portion shaped and positioned to centre the glazing within the aperture during insertion in the aperture by bearing against the inner edge of the mounting flange, and the glazing is bonded to the mounting flange by an adhesive material (4).

2. A window as claimed in claim 1, wherein

the profile includes a raised portion in the form of a lip (12,22,32,42) extending away from the glazing which, after insertion of the glazing in the aperture, extends beyond the edge of the mounting flange of the vehicle body and over the face (19) of the mounting flange which faces away from the glazing.

3. A window as claimed in claim 1 or claim 2, wherein the profile further includes a spacer portion (14, 24A", 54) on the peripheral side of the raised portion, the spacer portion abutting against the mounting flange during installation thereby acting as a stop for the glazing and maintaining the glazing in fixed spaced relationship to the mounting flange.

4. A window as claimed in any preceding claim, wherein the raised portion of the profile is adapted to retain the glazing in a centred position while the adhesive sets.

5. A window as claimed in any preceding claim, wherein the glazing profile further includes a lip (28) on its peripheral side, the base of the lip extending outwards from the glazing, and the body of the lip

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extending in a curve towards a direction perpendicular to the faces of the glazing so that the lip seals against the mounting flange after installation.

6. A window as claimed in any preceding claim, wherein the raised portion of the profile is in the form of a curled lip (12, 22, 32, 42) having a base (15, 45) which extends away from the glazing, the remainder of the lip curling over towards the mounting flange.

7. A window as claimed in claim 6, including means (102, 39) of pulling the lip over the mounting flange after insertion of the glazing in the aperture.

8. A window as claimed in claim 7, wherein the means comprises a metal wire (102) provided in a space defined by the lip curling over.

9. A window as claimed in claim 7, wherein the means comprises a cord (102) provided in a space defined by the lip curling over.

10. A window as claimed in claim 7, wherein the tip of the lip includes a narrow neck portion (38) which joins a bead (39) to the body of the lip, the neck portion being strong enough to allow the lip to be pulled over the mounting flange, but weak enough to allow the bead to detach from the body of the lip as soon as the lip has been pulled over the mounting flange.

11. A window as claimed in claim 6, wherein at least one electrical wire is provided in a space defined by the lip curling over.

12. A window as claimed in any one of claims 1 to 5, wherein the raised portion (52) of the profile includes a first surface (55) at a first slanting angle to the mounting flange (5) for initial centring of the glazing (50) as it is offered into the aperture during installation, a second surface (56) at a second slanting angle to the mounting flange for maintaining the centred position of the glazing after insertion in the aperture, and a step (57) between the first and second surfaces in which the inner edge (8) of the mounting flange engages

during insertion of the glazing so that the glazing is retained in position relative to the flange.

13. A window as claimed in claim 12, wherein the raised portion of the profile includes a groove (59) extending around the profile in a direction generally parallel to the glazing and on an inward-facing face of the profile.

14. A window as claimed in any preceding claim, wherein the glazing profile comprises a single piece of elastomeric material.

15. A glazing as claimed in any preceding claim, comprising a pane of glazing material and an elastomeric glazing profile.

16. A vehicle glazing (10, 20, 30, 40, 50) comprising a pane of glazing material (1) and an elastomeric glazing profile (11, 21, 31, 41, 51) disposed on a margin of a face of the pane around at least part of the periphery of the pane, characterised in that

the profile includes a raised portion shaped and positioned to centre the glazing within an aperture in a vehicle body during insertion of the glazing into the aperture from outside the vehicle body, the centring of the glazing being achieved by the raised portion bearing against the inner edge (8) of a mounting flange (5) surrounding the aperture, that the glazing is bonded to the mounting flange by an adhesive (4), and that the raised portion is further shaped and positioned to retain the glazing in a centred position while the adhesive sets.

17. A glazing profile as claimed in any preceding claim.

18. A seal element applied along the whole internal perimeter of a sheet of glass destined to be glued onto the bodywork of a vehicle by means of adhesive (4), having at least a first elastic seal tongue (48) to lie against sald bodywork, which protrudes from the edge of the glass in a direction that is essentially parallel to

the glass, characterised in that it comprises a second tongue (42) on the opposite edge to said first seal tongue (48), said second tongue protruding at the root in a direction that is essentially perpendicular to the glass, and taking on in its end portion the shape of a curl elastically curling over backwards upon itself towards the edge of the glass.

19. A seal element according to claim 18, characterised in that said tongue (42) has different thicknesses (b1, b2, b3) which decrease from the root towards the intermediate portion and from the latter towards the end portion.

20. A seal element according to claim 19, characterised in that the ratio between the thickness (b2) of said intermediate portion and the thickness (b3) of said end portion is greater than 1.2 and the ratio between the thickness (b1) at the root and the thickness (b2) of the intermediate portion is greater than 1.5.

21. A seal element according to any one of claims 18 to 20, further comprising a slot (A) for application of said adhesive (4), characterised in that two beads (A') and (A"), differently spaced with respect to said first seal tongue, border said slot and have a height (a') and (a"), respectively, such as to contain the adhesive during gluing.

22. A seal element according to claim 21, in which the height of said beads (A', A") is such that the ratio between the height (a') of the bead (A') furthest from said first seal tongue (48) and the height (a") of the bead (A") closest to said first seal tongue (48) is greater than 1.

23. A method of glazing a window in a vehicle, including: providing a glazing including an elastomeric glazing profile disposed on a margin of a face of the glazing around at least part of its periphery, and a mounting flange having an inner edge defining an aperture in a vehicle body, applying a bead of adhesive material

to the glazing or the mounting flange, offering the glazing to the aperture from outside the vehicle body, including centring the glazing relative to the aperture as it is inserted, characterised by centring the glazing by means of a raised portion of the glazing profile shaped and positioned to bear against the inner edge of the mounting flange.

24. A method as claimed in claim 23, wherein the raised portion of the profile retains the glazing in position while the adhesive sets.

25. A method as claimed in claim 23 or 24, wherein the raised portion includes a lip, the method additionally including pulling the lip over the mounting flange.

26. A method of centring a glazing relative to an aperture in a vehicle body as claimed in claim 23.

elastomeric glazing profile disposed around at least part of its periphery on a margin of a face of the glazing, and a mounting flange having an inner edge defining an aperture in a vehicle body, characterised in that the profile includes a raised portion shaped and positioned to centre the glazing within the aperture during insertion in the aperture by bearing against the inner edge of the mounting flange.

This window has the advantage that the centring element of the profile is not exposed to the weather or to UV radiation. Indeed, in many embodiments of the invention, the whole profile is protected from these harmful agents. The functional element of the profile is also better protected from accidental damage, allows trimless glazing if desired and may be adapted to perform additional functions as described below.

The term "inner" is intended here to mean "towards the centre of the aperture", and "edge" is to be interpreted as including any narrow face in which the mounting flange terminates as well as a meeting-line of such a face with one of the major faces of the mounting flange.

The invention also provides a window for a vehicle, comprising a glazing including an elastomeric glazing profile disposed around at least part of its periphery on a margin of a face of the glazing, and a mounting flange having an inner edge defining an aperture in a vehicle body, characterised in that

the profile includes a raised portion in the form of a lip extending away from the glazing which, after insertion of the glazing in the aperture, extends beyond the mounting flange of the vehicle body and over the face of the mounting flange which faces away from the glazing.

The glazing profile of this version of the window may eliminate the need for a separate piece of interior trim, thereby simplifying the assembly of the vehicle and

reducing the manufacturing costs of the vehicle, while improving the aesthetics of the passenger compartment.

Preferably the glazing profile further includes a spacer portion on the peripheral side of the raised portion, the spacer portion abutting against the mounting flange during installation thereby acting as a stop for the glazing and maintaining the glazing in fixed spaced relationship to the mounting flange. Such a spacer portion ensures that the window may be accurately glazed flush with the surrounding bodywork.

Preferably the raised portion of the glazing profile is adapted to retain the glazing in position while the adhesive used to bond the glazing sets. The need for separate clips, clamps or other supports is thereby eliminated.

According to another aspect of the invention, there is provided a method of glazing a window in a vehicle, including:

providing a glazing including an elastomeric glazing profile disposed on a margin of a face of the glazing around at least part of its periphery, and a mounting flange having an inner edge defining an aperture in a vehicle body,

applying a bead of adhesive material to the glazing or the mounting flange,

offering the glazing to the aperture, including

centring the glazing relative to the aperture as it is inserted,

characterised by centring the glazing by means of a raised portion of the glazing profile shaped and positioned to bear against the inner edge of the mounting flange.

According to a further aspect, the invention also provides a method of centring a glazing relative to an aperture in a vehicle body as herein described, regardless of the means employed to attach the glazing to the vehicle body.

manufactured by extrusion or a moulding process, e. g. injection or flow-moulding, as appropriate. In the embodiments of the invention herein described, the glazing is attached to the vehicle body by means of an adhesive material 4, but other methods of attachment exist, and the invention is equally applicable to such other methods if there is a need for the glazing profile to perform a centring, retaining or trimming function. The mounting flange 5 comprises a parallel portion 6 which is substantially parallel to both the external bodywork 7 and the pane of glazing material 1 where they meet. The parallel portion of the mounting flange 5 ends at an extreme inner edge 8 which defines an aperture in the vehicle body. Between the parallel portion 6 and the external bodywork 7 is a distance portion 9 which spaces the parallel portion from the external bodywork 7. The mounting flange has two faces 18 and 19; face 18 faces the glazing whereas face 19 faces away from it.

The glazing normally also includes an obscuration band 2, comprising an opaque layer e.g. of ceramic ink, which serves both to obscure the glazing profile, adhesive and mounting flange from external view thereby improving the aesthetic appearance of the vehicle, and to protect those elements from the effect of sunlight, especially the ultra-violet component. It is an advantage of the present invention that, if desired, the whole glazing profile may be obscured from view and protected from weathering (including the effect of UV radiation) by the pane of glazing material and especially by the obscuration band.

The glazing profile comprises at its simplest a bed portion 13 and a raised portion, which in this embodiment is in the form of a curled lip 12. Preferably there is also a spacer portion 14 on the peripheral side of the raised portion, i.e. on the side towards the periphery of the glazing. During insertion of the glazing, the spacer portion 14 will come to abut onto face 18 of the parallel

portion 6 of the mounting flange 5, thereby acting as a stop for the glazing and maintaining it in fixed spaced relationship to the mounting flange.

Generally the spacer 14 will be of uniform thickness around the glazing to maintain the glazing 10 at a uniform spacing from the mounting flange 5. However, should the depth of the distance portion 9 of the mounting flange vary around the aperture, the thickness of the spacer portion and raised position can also be raised to compensate. Clearly, if the glazing is to be glazed flush with the external bodywork, the combined thickness of the pane 1 and the spacer portion 14 should be approximately equal to the depth of the distance portion 9.

The adhesive material 4 employed is generally sufficiently viscous to remain substantially in position after application; however, if the need arises (e.g. if an adhesive material of unusually low viscosity is to be used), the spacer portion 14 may be dimensioned and positioned so that it acts as a dam which constrains the spreading of the adhesive material. The same applies to other space portions mentioned hereinafter.

As was mentioned above, in this embodiment, the raised portion of the profile 11 is in the form of a curled lip 12 having a base 15 which extends away from the glazing, the remainder of the lip (comprising the body 16 and the tip 17 of the lip) then curling over towards the mounting flange 5 in the form of a scroll. When suitably proportioned, this shape of raised portion is capable of centring the glazing during insertion, retaining the glazing in position while the adhesive sets (both of which will be explained in more detail in connection with Fig 3 below), and covering the edge 8 of the mounting flange, thereby eliminating the need for a separate trim strip on this edge.

Optionally, the space defined by the lip curling over may be utilised for an auxiliary component, for

example, one or more electrical wires or leads 103 may be housed within this space. Such leads may be used to provide electric power to electric equipment on or adjacent the window, such as a heating element disposed on the window, or a window wiper. Safety legislation in some countries now requires a further brake lamp to be provided, mounted on the rear window, and the wiring for such brake lamps may conveniently be concealed within the curl of the lip 12. Alternatively the lead(s) 103 may be used to carry the signal from an antenna mounted on or near the window. Although these leads are only shown in Fig 1, they can of course be included in any of the embodiments of the invention.

After installation of the glazing, a small and uniform gap denoted by arrow Z may remain between the pane 1 and the bodywork 3. If trimless glazing is preferred this gap may be left as it is, or alternatively it may be filled by a separate finishing trim strip 100 to avoid dirt and moisture collecting in the gap, albeit with some loss of flushness. The use of a finishing trim strip is especially preferred when the pane 1 is of laminated glass. Alternatively, the second embodiment may be employed, as will now be described.

Fig 2 shows a second embodiment of the invention, which in many respects is the same as the first embodiment, but in which the glazing 20 includes a modified glazing profile 21. The modified profile includes a "drooping" sealing lip 28, i.e. a short lip on the peripheral side of the profile, which initially extends outwards from the glazing 20, but curves round towards a direction perpendicular to the faces of the glazing. This lip 28 does not centre the glazing during insertion, but merely comes to rest against the vehicle bodywork to seal against ingress of dirt and moisture in a similar way to finishing strip 100.

Preferably the profile 21 also includes a second spacer portion 29 to which the sealing lip 28 is

CLAIMS

1. A window for a vehicle, comprising a glazing (10,20,30,40,50) including an elastomeric glazing profile (11,21,31,41,51) disposed around at least part of its periphery on a margin of a face of the glazing, and a mounting flange (5) having an inner edge (8) defining an aperture in a vehicle body, characterised in that

the profile includes a raised portion shaped and positioned to centre the glazing within the aperture during insertion in the aperture by bearing against the inner edge of the mounting flange.

2. A window for a vehicle, comprising a glazing (10,20,30,40,50) including an elastomeric glazing profile (11,21,31,41,51) disposed around at least part of its periphery on a margin of a face of the glazing, and a mounting flange (5) having an inner edge (8) defining an aperture in a vehicle body, characterised in that

the profile includes a raised portion in the form of a lip (12,22,32,42) extending away from the glazing which, after insertion of the glazing in the aperture, extends beyond the mounting flange of the vehicle body and over the face (19) of the mounting flange which faces away from the glazing.

3. A window as claimed in claim 1 or claim 2, wherein the profile further includes a spacer portion (14, A", 54) on the peripheral side of the raised portion, the spacer portion abutting against the mounting flange during installation thereby acting as a stop for the glazing and maintaining the glazing in fixed spaced relationship to the mounting flange.

4. A window as claimed in any preceding claim, wherein the glazing is bonded to the mounting flange by an adhesive material (4), and the raised portion of the profile is adapted to retain the glazing in position while the adhesive sets.

5. A window as claimed in any preceding claim, wherein the glazing profile further includes a lip (28)

on its peripheral side, the base of the lip extending outwards from the glazing, and the body of the lip extending in a curve towards a direction perpendicular to the faces of the glazing so that the lip seals against the mounting flange after installation.

6. A window as claimed in any preceding claim, wherein the raised portion of the profile is in the form of a curled lip (12,22,32,42) having a base (15, 45) which extends away from the glazing, the remainder of the lip curling over towards the mounting flange.

7. A window as claimed in claim 6, including means (102,39) of pulling the lip over the mounting flange after insertion of the glazing in the aperture.

8. A window as claimed in claim 7, wherein the means comprises a metal wire (102) provided in a space defined by the lip curling over.

9. A window as claimed in claim 7, wherein the means comprises a cord (102) provided in a space defined by the lip curling over.

10. A window as claimed in claim 7, wherein the tip of the lip includes a narrow neck portion (38) which joins a bead (39) to the body of the lip, the neck portion being strong enough to allow the lip to be pulled over the mounting flange, but weak enough to allow the bead to detach from the body of the lip as soon as the lip has been pulled over the mounting flange.

11. A window as claimed in claim 6, wherein at least one electrical wire is provided in a space defined by the lip curling over.

12. A window as claimed in any one of claims 1 to 5, wherein the raised portion (52) of the profile includes a first surface (55) at a first slanting angle to the mounting flange (5) for initial centring of the glazing (50) as it is offered into the aperture during installation, a second surface (56) at a second slanting angle to the mounting flange for maintaining the centred position of the glazing after insertion in the aperture,

and a step (57) between the first and second surfaces in which the inner edge (8) of the mounting flange engages during insertion of the glazing so that the glazing is retained in position relative to the flange.

13. A window as claimed in claim 12, wherein the raised portion of the profile includes a groove (59) extending around the profile in a direction generally parallel to the glazing and on an inward-facing face of the profile.

14. A window as claimed in any preceding claim, wherein the glazing profile comprises a single piece of elastomeric material.

15. A glazing as claimed in any preceding claim, comprising a pane of glazing material and an elastomeric glazing profile.

16. A glazing profile as claimed in any preceding claim.

17. A seal element applied along the whole internal perimeter of a sheet of glass destined to be glued onto the bodywork of a vehicle by means of adhesive (4), having at least a first elastic seal tongue (48) to lie against sald bodywork, which protrudes from the edge of the glass in a direction that is essentially parallel to the glass, characterised in that it comprises a second tongue (42) on the opposite edge to said first seal tongue (48), said second tongue protruding at the root in a direction that is essentially perpendicular to the glass, and taking on in its end portion the shape of a curl elastically curling over backwards upon itself towards the edge of the glass.

18. A seal element according to claim 17, characterised in that said tongue (42) has different thicknesses (b1, b2, b3) which decrease from the root towards the intermediate portion and from the latter towards the end portion.

19. A seal element according to claim 18, characterised in that the ratio between the thickness

(b2) of said intermediate portion and the thickness (b3) of said end portion is greater than 1.2 and the ratio between the thickness (b1) at the root and the thickness (b2) of the intermediate portion is greater than 1.5.

20. A seal element according to any one of claims 17 to 19, further comprising a slot (A) for application of said adhesive (4), characterised in that two beads (A') and (A"), differently spaced with respect to said first seal tongue, border said slot and have a height (a') and (a"), respectively, such as to contain the adhesive during gluing.

21. A seal element according to claim 20, in which the height of said beads (A', A") is such that the ratio between the height (a') of the bead (A') furthest from said first seal tongue (48) and the height (a") of the bead (A") closest to said first seal tongue (48) is greater than 1.

22. A method of glazing a window in a vehicle, including: providing a glazing including an elastomeric glazing profile disposed on a margin of a face of the glazing around at least part of its periphery, and a mounting flange having an inner edge defining an aperture in a vehicle body, applying a bead of adhesive material to the glazing or the mounting flange, offering the glazing to the aperture, including centring the glazing relative to the aperture as it is inserted, characterised by centring the glazing by means of a raised portion of the glazing profile shaped and positioned to bear against the inner edge of the mounting flange.

23. A method as claimed in claim 22, wherein the raised portion of the profile retains the glazing in position while the adhesive sets.

24. A method as claimed in claim 22 or 23, wherein the raised portion includes a lip, the method additionally including pulling the lip over the mounting flange.

25. A method of centring a glazing relative to an aperture in a vehicle body as claimed in claim 22.

elastomeric glazing profile disposed around at least part of its periphery on a margin of a face of the glazing, and a mounting flange having an inner edge defining an aperture in a vehicle body, characterised in that the profile includes a raised portion shaped and positioned to centre the glazing within the aperture during insertion in the aperture by bearing against the inner edge of the mounting flange.

This window has the advantage that the centring element of the profile is not exposed to the weather or to UV radiation. Indeed, in many embodiments of the invention, the whole profile is protected from these harmful agents. The functional element of the profile is also better protected from accidental damage, allows trimless glazing if desired and may be adapted to perform additional functions as described below.

The term "inner" is intended here to mean "towards the centre of the aperture", and "edge" is to be interpreted as including any narrow face in which the mounting flange terminates as well as a meeting-line of such a face with one of the major faces of the mounting flange.

~~The invention also provides a window for a vehicle, comprising a glazing including an elastomeric glazing profile disposed around at least part of its periphery on a margin of a face of the glazing, and a mounting flange having an inner edge defining an aperture in a vehicle body, characterised in that~~

Preferably, the profile includes a raised portion in the form of a lip extending away from the glazing which, after insertion of the glazing in the aperture, extends beyond the edge of the mounting flange of the vehicle body and over the face of the mounting flange which faces away from the glazing.

The glazing profile of this version of the window may eliminate the need for a separate piece of interior trim, thereby simplifying the assembly of the vehicle and

reducing the manufacturing costs of the vehicle, while improving the aesthetics of the passenger compartment.

Preferably the glazing profile further includes a spacer portion on the peripheral side of the raised portion, the spacer portion abutting against the mounting flange during installation thereby acting as a stop for the glazing and maintaining the glazing in fixed spaced relationship to the mounting flange. Such a spacer portion ensures that the window may be accurately glazed flush with the surrounding bodywork.

Preferably the raised portion of the glazing profile is adapted to retain the glazing in a CENTRED position while the adhesive used to bond the glazing sets. The need for separate clips, clamps or other supports is thereby eliminated.

According to another aspect of the invention, there is provided a method of glazing a window in a vehicle, including:

providing a glazing including an elastomeric glazing profile disposed on a margin of a face of the glazing around at least part of its periphery, and a mounting flange having an inner edge defining an aperture in a vehicle body,

applying a bead of adhesive material to the glazing or the mounting flange,

offering the glazing to the aperture, FROM OUTSIDE THE VEHICLE BODY including

centring the glazing relative to the aperture as it is inserted,

characterised by centring the glazing by means of a raised portion of the glazing profile shaped and positioned to bear against the inner edge of the mounting flange.

According to a further aspect, the invention also provides a method of centring a glazing relative to an aperture in a vehicle body as herein described, regardless of the means employed to attach the glazing to the vehicle body.

manufactured by extrusion or a moulding process, e. g. injection or flow-moulding, as appropriate. In the embodiments of the invention herein described, the glazing is attached to the vehicle body by means of an adhesive material 4. ~~but other methods of attachment exist, and the invention is equally applicable to such other methods if there is a need for the glazing profile to perform a centring, retaining or trimming function.~~ The mounting flange 5 comprises a parallel portion 6 which is substantially parallel to both the external bodywork 7 and the pane of glazing material 1 where they meet. The parallel portion of the mounting flange 5 ends at an extreme inner edge 8 which defines an aperture in the vehicle body. Between the parallel portion 6 and the external bodywork 7 is a distance portion 9 which spaces the parallel portion from the external bodywork 7. The mounting flange has two faces 18 and 19; face 18 faces the glazing whereas face 19 faces away from it.

The glazing normally also includes an obscuration band 2, comprising an opaque layer e.g. of ceramic ink, which serves both to obscure the glazing profile, adhesive and mounting flange from external view thereby improving the aesthetic appearance of the vehicle, and to protect those elements from the effect of sunlight, especially the ultra-violet component. It is an advantage of the present invention that, if desired, the whole glazing profile may be obscured from view and protected from weathering (including the effect of UV radiation) by the pane of glazing material and especially by the obscuration band.

The glazing profile comprises at its simplest a bed portion 13 and a raised portion, which in this embodiment is in the form of a curled lip 12. Preferably there is also a spacer portion 14 on the peripheral side of the raised portion, i.e. on the side towards the periphery of the glazing. During insertion of the glazing, the spacer portion 14 will come to abut onto face 18 of the parallel

portion 6 of the mounting flange 5, thereby acting as a stop for the glazing and maintaining it in fixed spaced relationship to the mounting flange.

Generally the spacer 14 will be of uniform thickness around the glazing to maintain the glazing 10 at a uniform spacing from the mounting flange 5. However, should the depth of the distance portion 9 of the mounting flange vary around the aperture, the thickness of the spacer portion and raised position can also be raised to compensate. Clearly, if the glazing is to be glazed flush with the external bodywork, the combined thickness of the pane 1 and the spacer portion 14 should be approximately equal to the depth of the distance portion 9.

The adhesive material 4 employed is generally sufficiently viscous to remain substantially in position after application; however, if the need arises (e.g. if an adhesive material of unusually low viscosity is to be used), the spacer portion 14 may be dimensioned and positioned so that it acts as a dam which constrains the spreading of the adhesive material. The same applies to other ~~space~~ spacer portions mentioned hereinafter.

As was mentioned above, in this embodiment, the raised portion of the profile 11 is in the form of a curled lip 12 having a base 15 which extends away from the glazing, the remainder of the lip (comprising the body 16 and the tip 17 of the lip) then curling over towards the mounting flange 5 in the form of a scroll. When suitably proportioned, this shape of raised portion is capable of centring the glazing during insertion, retaining the glazing in position while the adhesive sets (both of which will be explained in more detail in connection with Fig 3 below), and covering the edge 8 of the mounting flange, thereby eliminating the need for a separate trim strip on this edge.

Optionally, the space defined by the lip curling over may be utilised for an auxiliary component, for

example, one or more electrical wires or leads 103 may be housed within this space. Such leads may be used to provide electric power to electric equipment on or adjacent the window, such as a heating element disposed on the window, or a window wiper. Safety legislation in some countries now requires a further brake lamp to be provided, mounted on the rear window, and the wiring for such brake lamps may conveniently be concealed within the curl of the lip 12. Alternatively the lead(s) 103 may be used to carry the signal from an antenna mounted on or near the window. Although these leads are only shown in Fig 1, they can of course be included in any of the embodiments of the invention.

After installation of the glazing, a small and uniform gap denoted by arrow Z may remain between the pane 1 and the bodywork 3. If trimless glazing is preferred this gap may be left as it is, or alternatively it may be filled by a separate finishing trim strip 100 to avoid dirt and moisture collecting in the gap, albeit with some loss of flushness. The use of a finishing trim strip is especially preferred when the pane 1 is of laminated glass. Alternatively, the second embodiment may be employed, as will now be described.

Fig 2 shows a second embodiment of the invention, which in many respects is the same as the first embodiment, but in which the glazing 20 includes a modified glazing profile 21. The modified profile includes a "drooping" sealing lip 28, i.e. a short lip on the peripheral side of the profile, which initially extends outwards from the glazing 20, but curves round towards a direction perpendicular to the faces of the glazing. This lip 28 does not centre the glazing during insertion, but merely comes to rest against the vehicle bodywork to seal against ingress of dirt and moisture in a similar way to finishing strip 100.

Preferably the profile 21 also includes a second spacer portion 24 to which the sealing lip 28 is

CLAIMS

1. A window for a vehicle, comprising a glazing (10,20,30,40,50) including an elastomeric glazing profile (11,21,31,41,51) disposed around at least part of its periphery on a margin of a face of the glazing, and a mounting flange (5) having an inner edge (8) defining an aperture in a vehicle body, characterised in that THE GLAZING BEING INSERTED IN THE APERTURE FROM OUTSIDE THE VEHICLE BODY

the profile includes a raised portion shaped and positioned to centre the glazing within the aperture during insertion in the aperture by bearing against the inner edge of the mounting flange, MOUNTING FLANGE BY AN ADHESIVE MATERIAL (4); AND THE GLAZING IS BONDED TO THE

2. A window ~~for a vehicle, comprising a glazing (10,20,30,40,50) including an elastomeric glazing profile (11,21,31,41,51) disposed around at least part of its periphery on a margin of a face of the glazing, and a mounting flange (5) having an inner edge (8) defining an aperture in a vehicle body, characterised in that~~ AS CLAIMED IN CLAIM 1, WHEREIN the profile includes a raised portion in the form of a lip (12,22,32,42) extending away from the glazing which, after insertion of the glazing in the aperture, extends beyond the EDGE OF THE mounting flange of the vehicle body and over the face (19) of the mounting flange which faces away from the glazing.

3. A window as claimed in claim 1 or claim 2, wherein the profile further includes a spacer portion (14, 24A", 54) on the peripheral side of the raised portion, the spacer portion abutting against the mounting flange during installation thereby acting as a stop for the glazing and maintaining the glazing in fixed spaced relationship to the mounting flange.

4. A window as claimed in any preceding claim, wherein ~~the glazing is bonded to the mounting flange by an adhesive material (4), and~~ the raised portion of the profile is adapted to retain the glazing in A CENTRED position while the adhesive sets.

5. A window as claimed in any preceding claim, wherein the glazing profile further includes a lip (28)

on its peripheral side, the base of the lip extending outwards from the glazing, and the body of the lip extending in a curve towards a direction perpendicular to the faces of the glazing so that the lip seals against the mounting flange after installation.

6. A window as claimed in any preceding claim, wherein the raised portion of the profile is in the form of a curled lip (12,22,32,42) having a base (15, 45) which extends away from the glazing, the remainder of the lip curling over towards the mounting flange.

7. A window as claimed in claim 6, including means (102,39) of pulling the lip over the mounting flange after insertion of the glazing in the aperture.

8. A window as claimed in claim 7, wherein the means comprises a metal wire (102) provided in a space defined by the lip curling over.

9. A window as claimed in claim 7, wherein the means comprises a cord (102) provided in a space defined by the lip curling over.

10. A window as claimed in claim 7, wherein the tip of the lip includes a narrow neck portion (38) which joins a bead (39) to the body of the lip, the neck portion being strong enough to allow the lip to be pulled over the mounting flange, but weak enough to allow the bead to detach from the body of the lip as soon as the lip has been pulled over the mounting flange.

11. A window as claimed in claim 6, wherein at least one electrical wire is provided in a space defined by the lip curling over.

12. A window as claimed in any one of claims 1 to 5, wherein the raised portion (52) of the profile includes a first surface (55) at a first slanting angle to the mounting flange (5) for initial centring of the glazing (50) as it is offered into the aperture during installation, a second surface (56) at a second slanting angle to the mounting flange for maintaining the centred position of the glazing after insertion in the aperture,

and a step (57) between the first and second surfaces in which the inner edge (8) of the mounting flange engages during insertion of the glazing so that the glazing is retained in position relative to the flange.

13. A window as claimed in claim 12, wherein the raised portion of the profile includes a groove (59) extending around the profile in a direction generally parallel to the glazing and on an inward-facing face of the profile.

14. A window as claimed in any preceding claim, wherein the glazing profile comprises a single piece of elastomeric material.

15. A glazing as claimed in any preceding claim, comprising a pane of glazing material and an elastomeric glazing profile.

INSERT NEW CLAIM 16 →

17 ~~16~~. A glazing profile as claimed in any preceding claim.

18 ~~17~~. A seal element applied along the whole internal perimeter of a sheet of glass destined to be glued onto the bodywork of a vehicle by means of adhesive (4), having at least a first elastic seal tongue (48) to lie against sald bodywork, which protrudes from the edge of the glass in a direction that is essentially parallel to the glass, characterised in that it comprises a second tongue (42) on the opposite edge to said first seal tongue (48), said second tongue protruding at the root in a direction that is essentially perpendicular to the glass, and taking on in its end portion the shape of a curl elastically curling over backwards upon itself towards the edge of the glass.

19 ~~18~~. A seal element according to claim 17, characterised in that said tongue (42) has different thicknesses (b1, b2, b3) which decrease from the root towards the intermediate portion and from the latter towards the end portion.

20 ~~19~~. A seal element according to claim 19 ~~18~~, characterised in that the ratio between the thickness

(b2) of said intermediate portion and the thickness (b3) of said end portion is greater than 1.2 and the ratio between the thickness (b1) at the root and the thickness (b2) of the intermediate portion is greater than 1.5.

21 ~~20~~. A seal element according to any one of claims 18 ~~17~~ to ~~18~~, further comprising a slot (A) for application of said adhesive (4), characterised in that two beads (A') and (A"), differently spaced with respect to said first seal tongue, border said slot and have a height (a') and (a"), respectively, such as to contain the adhesive during gluing.

22 ~~21~~. A seal element according to claim ~~20~~ 21, in which the height of said beads (A', A") is such that the ratio between the height (a') of the bead (A') furthest from said first seal tongue (48) and the height (a") of the bead (A") closest to said first seal tongue (48) is greater than 1.

23 ~~22~~. A method of glazing a window in a vehicle, including: providing a glazing including an elastomeric glazing profile disposed on a margin of a face of the glazing around at least part of its periphery, and a mounting flange having an inner edge defining an aperture in a vehicle body, applying a bead of adhesive material to the glazing or the mounting flange, offering the glazing to the aperture FROM OUTSIDE THE VEHICLE BODY, including centring the glazing relative to the aperture as it is inserted, characterised by centring the glazing by means of a raised portion of the glazing profile shaped and positioned to bear against the inner edge of the mounting flange.

24 ~~23~~. A method as claimed in claim 23 ~~22~~, wherein the raised portion of the profile retains the glazing in position while the adhesive sets.

25 ~~24~~. A method as claimed in claim 23 ~~22~~ or 24 ~~23~~, wherein the raised portion includes a lip, the method additionally including pulling the lip over the mounting flange.

26 ~~25~~. A method of centring a glazing relative to an aperture in a vehicle body as claimed in claim ~~22~~ 23